A Landsat-2 Experiment

DETECTION OF CROP MARK CONTRAST FOR ARCHAEOLOGICAL SURVEYS

First Quarter Progress Report

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No photographs have been received yet.

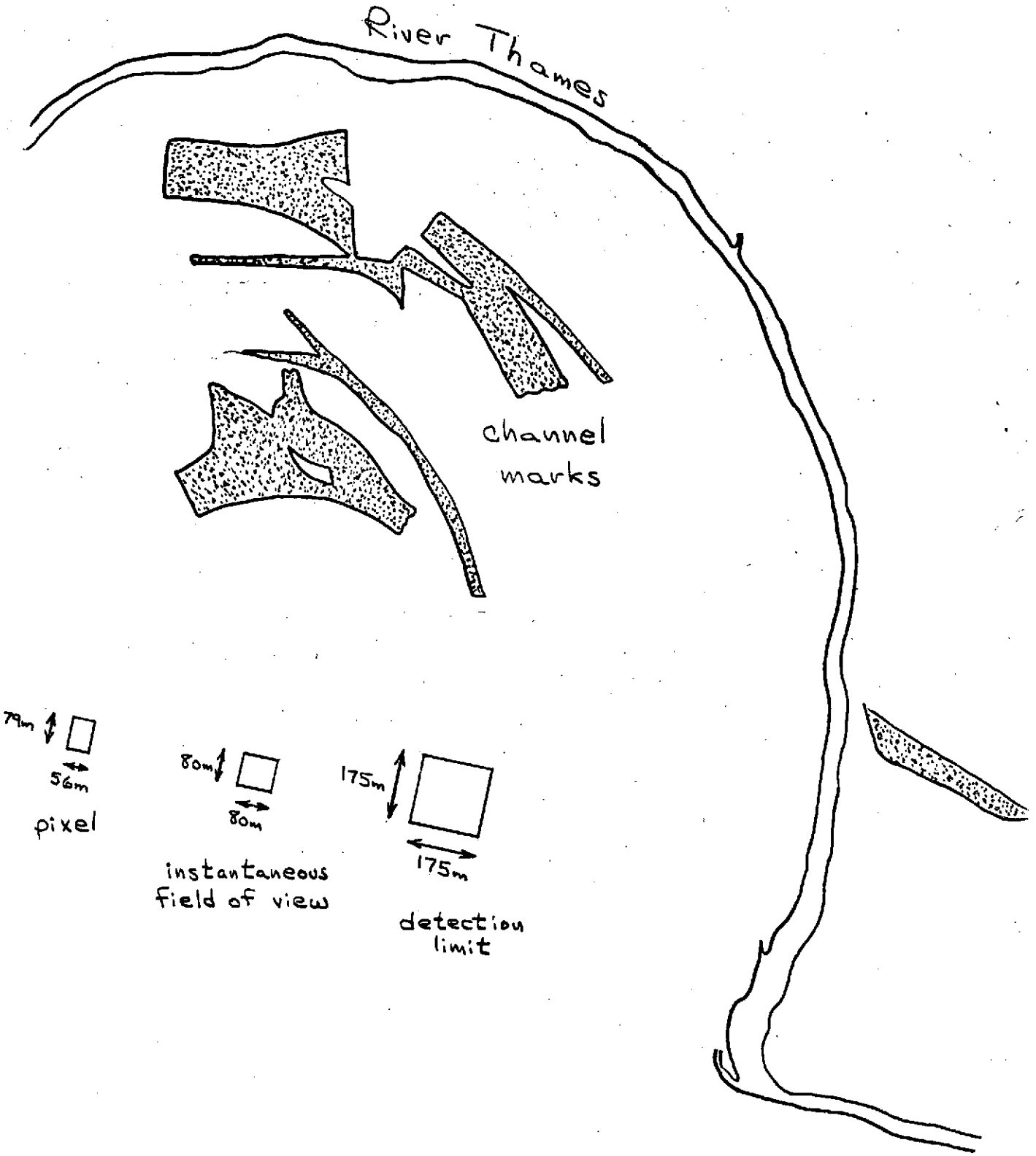
In order to prepare for the possibility of photography (from aircraft) in the region of the test site, an estimate of the overflight times has been made. This has been done by extrapolating the ground track lines for ERTS-1 (ERTS-1 Coverage of the United States, General Electric Co., January 1974) and allowing for the nine-day orbit shift (Landsat Newsletter No. 1, 29 January 1975). Photographs should be taken of the test site for the following nine dates, if the cloud cover is predicted to be less than 40%:

3 April
21 April
9 May
27 May
14 June
2 July
20 July
7 August

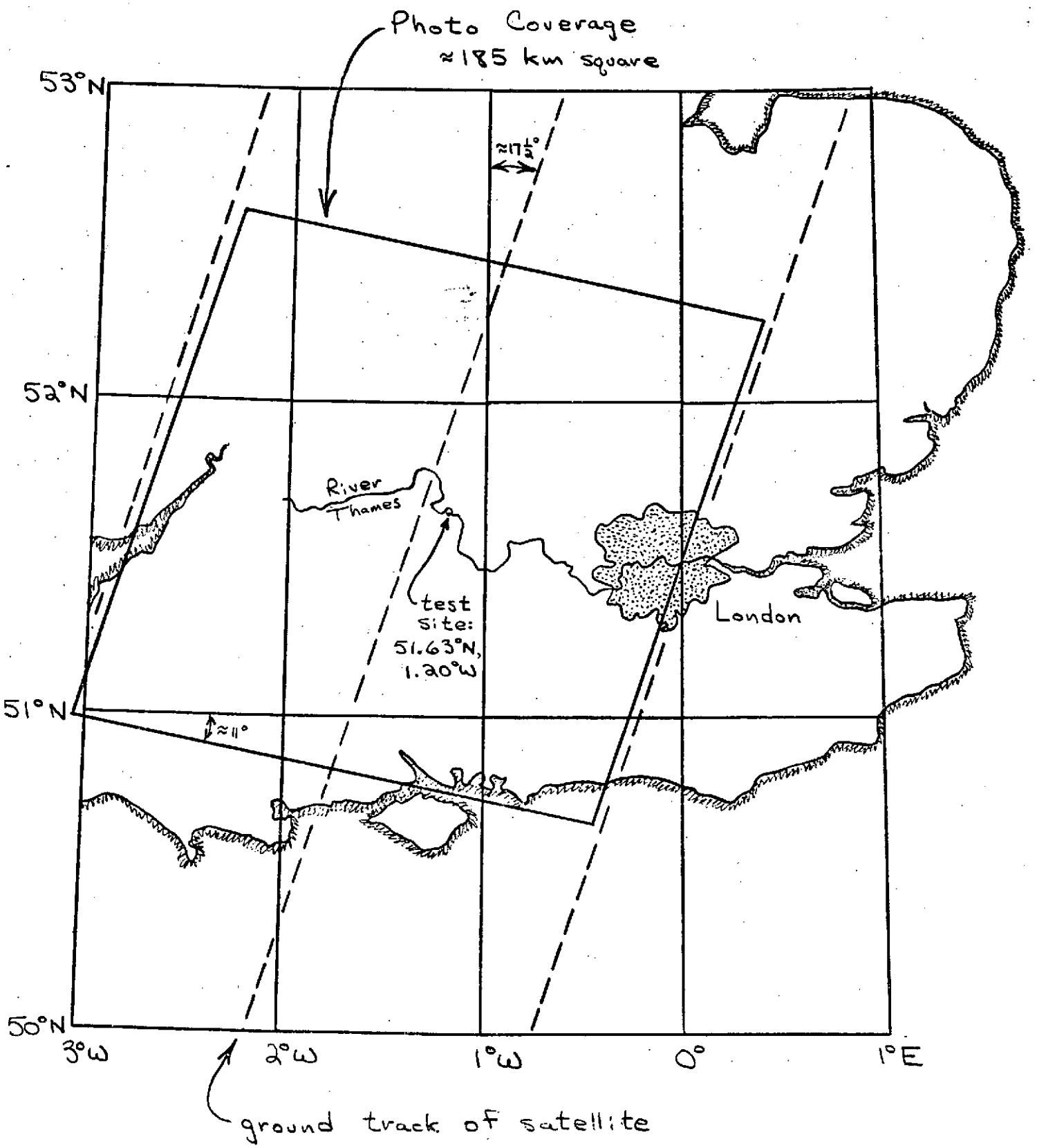
The extrapolated ground track of the satellite is given in the figure on the next page, along with an estimate of the MSS image orientation. At this latitude the ground track separation is 98.9 km in an EW direction; the sidelap of the photos will be about 45% and the satellite pass to the east of the central one may also be able to photograph the site.

The last figure shows the shape and size of the channel marks to be detected as compared to the size and orientation of the MSS pixel and instantaneous field of view (Data Users Handbook) and a guess at the detection limit for these channel marks (R. Welch, "ERTS-1 Image Quality", 8th Rem. Sens. of Envir. Conf., p. 1411). The contrast of these marks will probably be less than 2:1 at satellite altitude.

Bruce Bevan
Museum Applied Science Center for Archaeology
University Museum
University of Pennsylvania
Philadelphia, Pennsylvania



Test Site at Dorchester



Southeast England